

2020-2021  
Vermont Fertilizer Analysis Report



Vermont Agency of Agriculture, Food and Markets  
Public Health & Agricultural Resource Management  
116 State Street  
Montpelier, VT 05620-2901

Dear Reader:

This annual report summarizes all fertilizer sampling and analyses conducted by the Agency from January 1, 2020, through December 31, 2021. The report includes a summary total for each company from which greater than 10 samples was collected. All samples are listed individually. In 2020, a total of 152 fertilizer samples were collected and analyzed. For these samples, the Agency's laboratory conducted 351 chemical analyses for nitrogen, available phosphorous, potash, and numerous secondary nutrients such as calcium, magnesium, sulfur, iron, zinc, and boron. In 2021, a total of 107 fertilizer samples were collected and analyzed. For these samples, the Agency's laboratory conducted 306 chemical analyses for nitrogen, available phosphorous, potash, and numerous secondary nutrients such as calcium, magnesium, sulfur, iron, zinc, and boron.

The purpose of the sampling and testing is to ensure that fertilizer consumers are receiving products that conform to the label guarantee for all nutrients. 31 samples failed to meet the label guarantee for one or more nutrients in 2020 and 28 failed to meet the label guarantee in 2021.

Fertilizer manufacturers can be assessed penalties for product deficiencies which exceed the permitted analytical variance. The dollar value of a penalty is based on how far below the guarantee a sample is, the total weight of the lot sampled, and the cost of the nutrient that is deficient. If a consumer is not identified, the penalty is paid to the Agency's fertilizer program.

If you have any questions regarding this report or Vermont's Fertilizer Program, please contact the Public Health and Agriculture Resource Management Division; Vermont Agency of Agriculture, Food and Markets; 116 State Street; Montpelier, VT 05620-2901, or call (802) 828-5050.

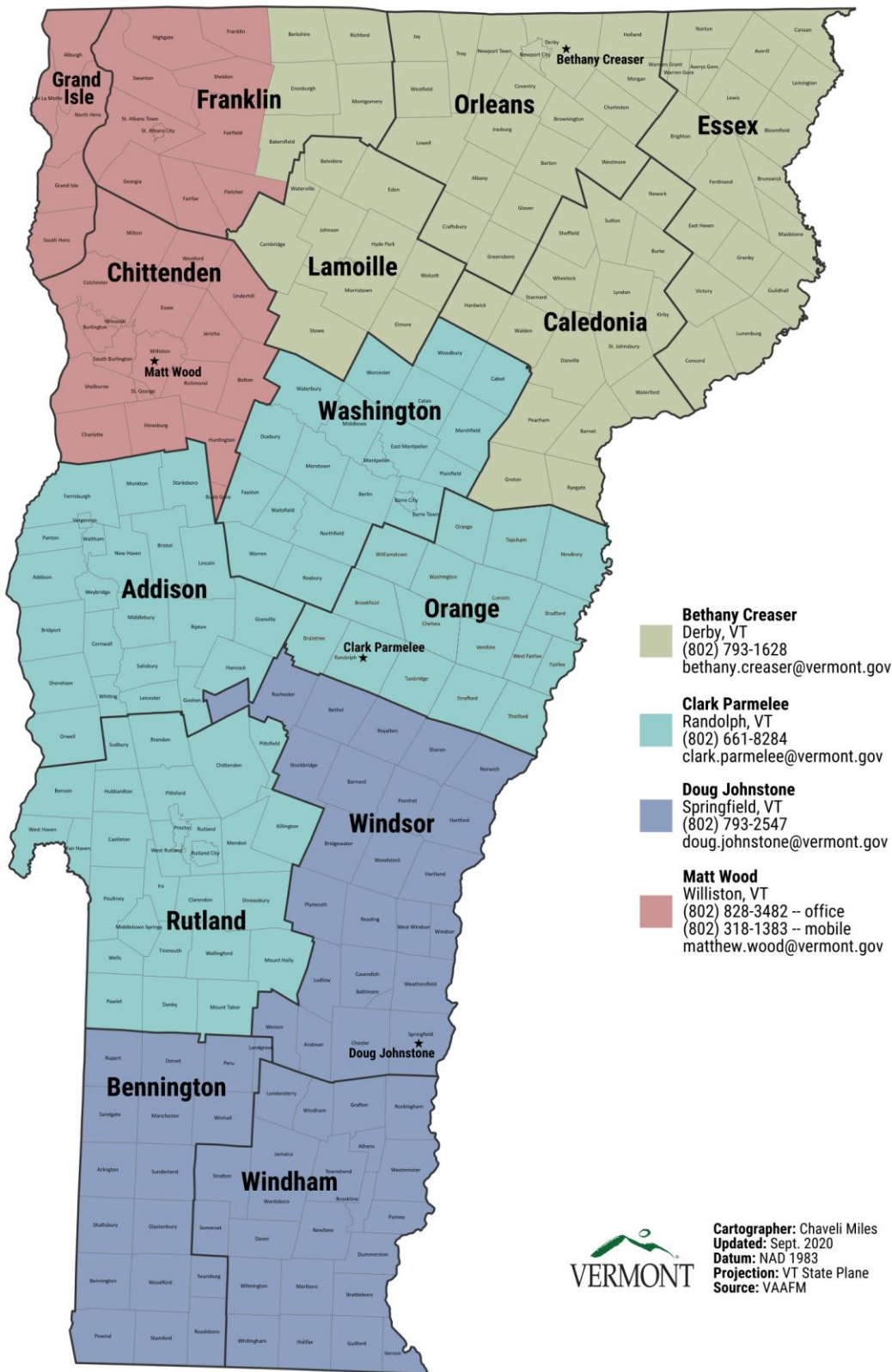
Sincerely,

A handwritten signature in black ink, appearing to read 'Cary Giguere', with a stylized, cursive script.

Cary Giguere  
Director

## Fertilizer Staff

Cary Giguere	Director
David Huber	Section Chief
Lisa Fantelli	ARM Specialist
Bethany Creaser	Field Agent
Doug Johnstone	Field Agent
Clark Parmelee	Field Agent
Matt Wood	Field Agent



## 2020 Fertilizer Sample Summary Table

### Fertilizer Companies with 10 or More Samples Taken

Company	Samples Collected	Nutrients Analyzed	# of Sample Violations
Bourdeau Bros.	62	124	8
Everris NA Inc.	12	24	0
Lawes Ag. Services Inc.	36	91	9
Northeast Ag Sales Inc.	27	73	12
Total of All Samples	137	312	29

#### Fertilizer Sample Chart Definitions

Pass: A sample receives a pass status if the guarantee for nitrogen, phosphorous or potash it is equal to or greater than the test results.

Fail: A Sample is considered deficient if the guarantee for nitrogen, phosphorous or potash exceeds The Association of American Plant Food Control Officials' (AAPFCO) established permitted analytical variance at an established confidence level of 97.5%.

Within Tolerance: A sample is within tolerance if it is greater than the AAPFCO's established permitted analytical variance at an established confidence level of 97.5% but less than 100%.

## 2020 Fertilizer Sample Results

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
7634	Bourdeau Brothers	6-24-6	6.12	23.8	6.12		Pass
7635	Bourdeau Brothers	6-24-6	5.57	23.20	6.05		Within Tolerance
7636	Bourdeau Brothers	6-24-6	5.73	23.8	5.95		Pass
7638	Bourdeau Brothers	6-24-6	5.73	23.20	6.00		Within Tolerance
7639	Bourdeau Brothers	6-24-6	5.83	23.8	6.06		Pass
7640	Bourdeau Brothers	6-24-6	5.62	23.9	6.10		Pass
7645	Bourdeau Brothers	6-24-6	5.70	23.8	6.07		Pass
7646	Bourdeau Brothers	6-24-6	5.86	23.6	5.85		Pass
7647	Bourdeau Brothers	6-24-6	5.82	23.7	6.06		Pass
7655	Bourdeau Brothers	10-17-20	9.86	16.80	18.70		Within Tolerance
7679	Bourdeau Brothers	10-13-27	10.30	13.70	27.50	Fail	Pass
7678	Bourdeau Brothers	10-13-27	10.49	14.80	28.73	Fail	Pass
7677	Bourdeau Brothers	10-13-27	9.34	13.40	32.00	Fail	Within Tolerance
7653	Bourdeau Brothers	10-13-27	10.91	14.20	26.20	Fail	Within Tolerance
7616	Bourdeau Brothers	0-0-60	.00	.00	61.40		Pass

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
7617	Bourdeau Brothers	0-0-60	.00	.00	60.95		Pass
7618	Bourdeau Brothers	0-0-60	.00	.00	62.50		Pass
7619	Bourdeau Brothers	0-0-60	.00	.00	63.30		Pass
7651	Bourdeau Brothers	11-0-45	17.17	13.20	40.35		Fail
7605	Bourdeau Brothers	11-52-0	10.43	49.00	.30		Fail
7606	Bourdeau Brothers	11-52-0	10.46	50.60	.30		Fail
7607	Bourdeau Brothers	11-52-0	10.75	53.80	.68		Within Tolerance
7681	Bourdeau Brothers	11-52-0	10.66	51.50	1.72		Within Tolerance
7676	Bourdeau Brothers	11-52-0	10.70	52.00	.75		Within Tolerance
7674	Bourdeau Brothers	11-52-0	10.31	53.80	.40		Within Tolerance
7652	Bourdeau Brothers	14-30-15	13.86	28.90	15.80		Fail
7650	Bourdeau Brothers	18-18-18	20.68	18.20	18.95		Pass
7604	Bourdeau Brothers	18-46-0	17.97	45.50	.30		Within Tolerance
7608	Bourdeau Brothers	18-46-0	18.23	44.80	.35		Fail
7611	Bourdeau Brothers	18-46-0	17.57	44.80	.23		Fail
7612	Bourdeau Brothers	18-46-0	17.54	45.80	.18		Within Tolerance
7642	Bourdeau Brothers	18-46-0	17.64	43.60	.22		Fail
7649	Bourdeau Brothers	18-46-0	17.68	46.10	.05		Within Tolerance
7656	Bourdeau Brothers	18-46-0	17.56	45.80	.57		Within Tolerance

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
7657	Bourdeau Brothers	18-46-0	17.55	46.20	.37		Within Tolerance
7658	Bourdeau Brothers	18-46-0	17.45	46.00	.32		Within Tolerance
7675	Bourdeau Brothers	31-7-12	30.35	7.25	12.60		Within Tolerance
7654	Bourdeau Brothers	31-7-12	32.36	7.68	11.80		Within Tolerance
7637	Bourdeau Brothers	32-0-0	31.58	.00	.00		Within Tolerance
7641	Bourdeau Brothers	32-0-0	31.00	.00	.00		Within Tolerance
7643	Bourdeau Brothers	32-0-0	31.14	.00	.00		Within Tolerance
7644	Bourdeau Brothers	32-0-0	31.85	.00	.00		Within Tolerance
7609	Bourdeau Brothers	46-0-0	46.50	.00	.00		Pass
7610	Bourdeau Brothers	46-0-0	46.22	.00	.00		Pass
7613	Bourdeau Brothers	46-0-0	47.51	.00	.00		Pass
7614	Bourdeau Brothers	46-0-0	46.79	.00	.00		Pass
7615	Bourdeau Brothers	46-0-0	46.34	.00	.00		Pass
7620	Bourdeau Brothers	46-0-0	46.45	.00	.00		Pass
7621	Bourdeau Brothers	46-0-0	45.99	.00	.00		Within Tolerance
7622	Bourdeau Brothers	46-0-0	46.10	.00	.00		Pass
7623	Bourdeau Brothers	46-0-0	45.97	.00	.00		Within Tolerance
7624	Bourdeau Brothers	46-0-0	44.07	.00	.00		Fail
7625	Bourdeau Brothers	46-0-0	45.28	.00	.00		Within Tolerance



Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
7626	Bourdeau Brothers	46-0-0	45.49	.00	.00		Within Tolerance
7627	Bourdeau Brothers	46-0-0	45.89	.00	.00		Within Tolerance
7628	Bourdeau Brothers	46-0-0	46.02	.00	.00		Pass
7629	Bourdeau Brothers	46-0-0	46.57	.00	.00		Pass
7630	Bourdeau Brothers	46-0-0	45.37	.00	.00		Within Tolerance
7631	Bourdeau Brothers	46-0-0	46.82	.00	.00		Pass
7632	Bourdeau Brothers	46-0-0	45.88	.00	.00		Within Tolerance
7633	Bourdeau Brothers	46-0-0	45.73	.00	.00		Within Tolerance
7648	Bourdeau Brothers	6--24-6	6.04	22.50	5.84		Pass
220002	Carovail	0-0-38	.00	.00	46.20		Pass
220003	Carovail	0-0-38	.00	.00	45.90	Within Tolerance	Within Tolerance
220004	Carovail	0-0-38	.00	.00	44.40	Within Tolerance	Within Tolerance
220001	Carovail	18-15-0	17.21	13.00	.24	Within Tolerance	Fail
452035	Darling Ingredients Inc	10-2-8	10.75	3.20	7.72		Within Tolerance
452040	Darling Ingredients Inc	10-2-8	11.00	3.26	7.26		Within Tolerance
452041	Darling Ingredients Inc	10-2-8	11.19	3.39	7.36		Within Tolerance
452036	Darling Ingredients Inc	13-0-0	13.02	.00	.00		Pass

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
452042	Darling Ingredients Inc	13-0-0	12.73	.00	.00		Within Tolerance
452010	Everris NA Inc	39-0-0	40.27	.00	.00	Pass	Pass
452003	Everris NA Inc	39-0-0	39.10	.00	.00	Within Tolerance	Within Tolerance
452004	Everris NA Inc	39-0-0	40.35	.00	.00	Within Tolerance	Pass
452005	Everris NA Inc	39-0-0	39.82	.00	.00	Pass	Pass
452006	Everris NA Inc	39-0-0	40.54	.00	.00	Pass	Pass
452007	Everris NA Inc	39-0-0	40.04	.00	.00	Pass	Pass
452008	Everris NA Inc	39-0-0	40.07	.00	.00	Pass	Pass
452011	Everris NA Inc	39-0-0	39.70	.00	.00	Pass	Pass
452012	Everris NA Inc	39-0-0	40.49	.00	.00	Within Tolerance	Within Tolerance
452013	Everris NA Inc	39-0-0	40.20	.00	.00	Pass	Pass
452014	Everris NA Inc	39-0-0	39.85	.00	.00	Pass	Pass
452015	Everris NA Inc	39-0-0	40.13	.00	.00	Pass	Pass
7663	Lawes Agricultural Service Inc	10-5-35	10.36	5.70	35.45	Within Tolerance	Within Tolerance
7593	Lawes Agricultural Service Inc	6-15-39	5.65	13.80	42.90		Fail
7592	Lawes Agricultural Service Inc	7-12-0	8.90	14.20	1.00		Pass

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
7595	Lawes Agricultural Service Inc	7-12-0	7.77	13.70	.00		Pass
7591	Lawes Agricultural Service Inc	7-24-3	6.81	23.90	3.19	Pass	Within Tolerance
7603	Lawes Agricultural Service Inc	10-10-20	12.57	10.20	21.60	Within Tolerance	Fail
7586	Lawes Agricultural Service Inc	10-20-20	10.66	19.50	20.30		Within Tolerance
7660	Lawes Agricultural Service Inc	10-20-20	11.33	23.40	20.00		Pass
7661	Lawes Agricultural Service Inc	10-20-20	10.59	21.20	18.80		Within Tolerance
7579	Lawes Agricultural Service Inc	0-0-60	.00	.00	58.50		Within Tolerance
7668	Lawes Agricultural Service Inc	0-0-60	.00	.00	61.80		Pass
7590	Lawes Agricultural Service Inc	15-15-15	12.10	12.75	16.25		Fail
7665	Lawes Agricultural Service Inc	15-15-15	14.58	15.40	15.30		Within Tolerance

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
7583	Lawes Agricultural Service Inc	18-46-0	17.50	46.20	.28		Within Tolerance
7587	Lawes Agricultural Service Inc	18-46-0	17.42	45.10	.25		Within Tolerance
7662	Lawes Agricultural Service Inc	18-46-0	17.14	43.85	.44		Fail
7589	Lawes Agricultural Service Inc	19-19-19	16.91	19.00	20.10		Fail
7594	Lawes Agricultural Service Inc	19-19-19	18.34	17.40	22.60		Fail
7598	Lawes Agricultural Service Inc	19-19-19	19.41	14.65	22.00		Fail
7667	Lawes Agricultural Service Inc	19-19-19	18.95	20.60	19.20		Within Tolerance
7669	Lawes Agricultural Service Inc	19-19-19	18.63	18.80	18.50		Within Tolerance
7601	Lawes Agricultural Service Inc	20-10-20	21.21	10.20	20.60	Fail	Fail
7599	Lawes Agricultural Service Inc	21.6-10.7-23.5	22.37	10.20	22.50		Within Tolerance

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
7588	Lawes Agricultural Service Inc	24-12-18	22.55	13.50	16.80		Fail
7600	Lawes Agricultural Service Inc	24-12-18	32.78	11.70	18.90		Within Tolerance
7666	Lawes Agricultural Service Inc	24-12-18	25.82	11.40	17.60		Within Tolerance
7602	Lawes Agricultural Service Inc	28-3-16	32.99	2.45	15.20		Within Tolerance
7584	Lawes Agricultural Service Inc	30-0-20	29.60	.00	21.50		Within Tolerance
7578	Lawes Agricultural Service Inc	32-0-0	32.17	.00	.00		Pass
7580	Lawes Agricultural Service Inc	32-0-0	31.69	.00	.00		Within Tolerance
7596	Lawes Agricultural Service Inc	32-0-0	31.87	.00	.00		Within Tolerance
7577	Lawes Agricultural Service Inc	46-0-0	46.31	.00	.00		Pass
7581	Lawes Agricultural Service Inc	46-0-0	46.41	.00	.00		Pass

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
7659	Lawes Agricultural Service Inc	46-0-0	45.84	.00	.00		Within Tolerance
7672	Lawes Agricultural Service Inc	46-0-0	45.97	.00	.00		Within Tolerance
7664	Lawes Agricultural Service Inc	7.5-13.8-36	8.55	14.20	35.30		Within Tolerance
452016	Northeast Agricultural Sales Inc	10-20-20	12.49	21.60	16.60		Fail
452017	Northeast Agricultural Sales Inc	10-20-20	10.48	19.40	18.80		Within Tolerance
452018	Northeast Agricultural Sales Inc	10-20-20	11.86	16.35	19.60		Fail
452001	Northeast Agricultural Sales Inc	12-12-20	13.56	13.60	20.40	Within Tolerance	Within Tolerance
452023	Northeast Agricultural Sales Inc	0-0-60	.00	.00	62.20		Pass
452024	Northeast Agricultural Sales Inc	0-0-60	.00	.00	67.20		Pass
452025	Northeast Agricultural Sales Inc	0-0-60	.00	.00	60.40		Pass

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
452026	Northeast Agricultural Sales Inc	0-0-60	.00	.00	61.20		Pass
452019	Northeast Agricultural Sales Inc	14.62-17.25-3.85	14.50	17.20	3.92	Pass	Within Tolerance
452020	Northeast Agricultural Sales Inc	14.62-17.25-3.85	14.51	23.20	6.60	Pass	Within Tolerance
452037	Northeast Agricultural Sales Inc	15-15-15	14.22	16.60	13.20		Fail
452029	Northeast Agricultural Sales Inc	16-8-16	14.34	10.60	12.45		Fail
452030	Northeast Agricultural Sales Inc	16-8-16	15.52	9.39	15.20		Within Tolerance
452031	Northeast Agricultural Sales Inc	16-8-16	16.73	9.70	13.20		Fail
452032	Northeast Agricultural Sales Inc	16-8-16	16.25	8.00	16.20		Pass
452028	Northeast Agricultural Sales Inc	17-17-17	15.85	18.10	15.80		Fail
452043	Northeast Agricultural Sales Inc	19-8-12	16.47	10.00	10.35		Fail

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
452044	Northeast Agricultural Sales Inc	19-8-12	19.53	9.67	11.04		Within Tolerance
452002	Northeast Agricultural Sales Inc	23-12-18	22.59	13.40	16.90		Within Tolerance
452038	Northeast Agricultural Sales Inc	24-10-16	23.09	12.10	14.40		Fail
452039	Northeast Agricultural Sales Inc	24-10-16	23.09	10.60	15.80		Within Tolerance
452033	Northeast Agricultural Sales Inc	24-6-12	19.51	8.82	9.08		Fail
452034	Northeast Agricultural Sales Inc	24-6-12	23.61	7.70	10.70		Fail
452022	Northeast Agricultural Sales Inc	25-0-15	21.40	.00	16.00		Fail
452021	Northeast Agricultural Sales Inc	28-7-14	27.39	7.51	13.30		Within Tolerance
452009	Northeast Agricultural Sales Inc	30-0-20	29.24	.00	18.80		Within Tolerance
452027	Northeast Agricultural Sales Inc	30-0-20	28.24	.00	21.20		Fail



<b>Sample ID</b>	<b>Business Name</b>	<b>NPK Guarantee</b>	<b>Lab Result N</b>	<b>Lab Result P</b>	<b>Lab Result K</b>	<b>Micronutrients</b>	<b>Sample Status</b>
7597	Servichem Synagri	0-0-60	.00	.00	62.70		Pass
7680	Sollio Agriculture	18-46-0	18.31	44.98	.32		Fail
7670	Yara Canada Inc	18-46-0	17.25	45.30	.54		Within Tolerance
7585	Yara Canada Inc	46-0-0	46.35	.00	.00		Pass
7671	Yara Canada Inc	46-0-0	45.50	.00	.00		Within Tolerance
7673	Yara Canada Inc	46-0-0	46.44	.00	.00		Pass

## 2021 Fertilizer Sample Summary Table

### Fertilizer Companies with 10 or More Samples Taken

Company	Samples Collected	Nutrients Analyzed	# of Sample Violations
Green Mountain Fertilizer	10	27	2
North Country Organics	12	34	0
Northeast Ag Sales	49	144	12
Total	71	205	14

#### Fertilizer Sample Chart Definitions

Pass: A sample receives a pass status if the guarantee for nitrogen, phosphorous or potash it is equal to or greater than the test results.

Fail: A Sample is considered deficient if the guarantee for nitrogen, phosphorous or potash exceeds The Association of American Plant Food Control Officials' (AAPFCO) established permitted analytical variance at an established confidence level of 97.5%.

Within Tolerance: A sample is within tolerance if it is greater than the AAPFCO's established permitted analytical variance at an established confidence level of 97.5% but less than 100%.

## 2021 Fertilizer Sample Results

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
12-140621-04	Lawes Agricultural Service Inc	15-15-15	12.95	14.70	15.90		Fail
12-040521-00	Connecticut River Ag Services	15-5-25	13.05	5.51	26.90		Fail
12-040821-00	Connecticut River Ag Services	10-10-10	7.30	11.80	8.65		Fail
12-040821-01	Connecticut River Ag Services	19-19-19	22.80	16.45	17.30		Fail
12-041921-01	Winfield Solutions LLC	10-10-10	8.38	9.18	9.91		Fail
12-042021-03	Northeast Agricultural Sales Inc	24-6-12	21.50	6.27	11.40		Fail
452126	Northeast Agricultural Sales Inc	12-15-18	10.45	15.50	16.55	Pass	Fail
452127	Northeast Agricultural Sales Inc	23-12-18	23.00	10.55	19.20		Fail
452129	Northeast Agricultural Sales Inc	10-2-8	7.71	10.40	6.53		Fail
452130	Northeast Agricultural Sales Inc	6-14-13	7.26	17.60	11.65		Fail
452136	Northeast Agricultural Sales Inc	7.5-7.5-7.5	5.99	7.93	7.79	Pass	Fail

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
452137	Northeast Agricultural Sales Inc	14-14-14	12.05	11.85	10.50	Fail	Fail
452138	Northeast Agricultural Sales Inc	24-6-12	21.50	6.37	11.40		Fail
12-150321-00	Lawes Agricultural Service Inc	24-12-18	24.90	9.38	18.50		Fail
12-042621-01	Green Mountain Fertilizer Div. Ld. Oliver	23-12-18	23.90	14.10	12.55		Fail
12-042621-02	Green Mountain Fertilizer Div. Ld. Oliver	15-15-15	13.25	16.20	15.00		Fail
452145	Northeast Agricultural Sales Inc	10-10-10	11.40	10.90	7.15		Fail
452147	Northeast Agricultural Sales Inc	19-19-19	19.30	19.60	12.25		Fail
452148	Northeast Agricultural Sales Inc	13-2-8	9.22	3.45	7.06		Fail
452150	Northeast Agricultural Sales Inc	39-0-0	37.27	.00	.00		Fail
1-0519-005	G Boucher Fertilizer	25-5-18	23.25	4.95	19.10	Pass	Fail
1-0519-006	Yara Canada Inc	46-0-0	44.55	.00	.00		Fail
1-0519-009	G Boucher Fertilizer	18-46-0	17.30	42.90	.00		Fail
12-061521-00	Carovail	17-17-0	16.80	15.20	.38	Within Tolerance	Fail

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
12-041921-00	Lawes Agricultural Service Inc	39-0-0	39.60	.00	.00	Fail	Fail
452103	Northeast Agricultural Sales Inc	10-20-20	9.89	21.00	23.90	Fail	Fail
452134	Northeast Agricultural Sales Inc	17.30-10-16.20	16.70	10.10	15.20	Fail	Fail
452133	Northeast Agricultural Sales Inc	20-10-20	19.20	10.70	23.40	Fail	Fail
12-033121-03	North Country Organics	5-3-4	5.17	3.90	4.15		Pass
12-033121-04	North Country Organics	5-3-4	5.49	3.18	4.17		Pass
12-033121-05	North Country Organics	5-3-4	5.00	3.58	4.33		Pass
12-033121-08	North Country Organics	5-3-9	5.42	4.87	9.31		Pass
12-033121-07	North Country Organics	5-3-9	2.33	3.23	3.42		Pass
12-033121-09	North Country Organics	4-3-3	4.91	3.75	3.06		Pass
12-040821-02	Connecticut River Ag Services	5-10-10	6.52	10.10	10.60		Pass
12-040821-03	Green Mountain Fertilizer Div. Ld. Oliver	12-0-7	12.80	.00	9.81		Pass

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
12-040821-04	Green Mountain Fertilizer Div. Ld. Oliver	12-0-7	12.90	.00	9.87		Pass
12-040821-05	Green Mountain Fertilizer Div. Ld. Oliver	10-10-10	11.80	14.00	14.20		Pass
12-041921-02	Lawes Agricultural Service Inc	46-0-0	46.00	.00	.00		Pass
452101	Northeast Agricultural Sales Inc	28-0-15	28.50	.00	15.15	Pass	Pass
452102	Northeast Agricultural Sales Inc	23-0-18	23.40	.00	18.30		Pass
452105	Northeast Agricultural Sales Inc	26-0-26	26.50	.00	27.00		Pass
452106	Northeast Agricultural Sales Inc	26-0-26	26.90	.00	27.50		Pass
452107	Northeast Agricultural Sales Inc	4-3-2	4.68	3.57	2.27		Pass
452109	Northeast Agricultural Sales Inc	4-3-2	4.65	3.92	2.02		Pass
452117	Darling Ingredients Inc	10-2-8	10.50	3.17	8.03		Pass
452123	Northeast Agricultural Sales Inc	45-0-0	46.10	.00	.00		Pass

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
12-042621-00	Green Mountain Fertilizer Div. Ld. Oliver	0-20-20	.00	23.10	21.50		Pass
12-042621-03	Green Mountain Fertilizer Div. Ld. Oliver	5-10-10	5.27	10.20	11.90		Pass
452142	Northeast Agricultural Sales Inc	23-12-28	24.20	12.20	18.30		Pass
452149	Northeast Agricultural Sales Inc	39-0-0	39.50	.00	.00		Pass
1-0519-008	G Boucher Fertilizer	0-0-60	.00	.00	66.00		Pass
1-0519-010	G Boucher Fertilizer	21-0-0	21.30	.00	.00	Pass	Pass
1-0519-014	Green Mountain Fertilizer Div. Ld. Oliver	10-10-10	12.20	11.00	10.10		Pass
08081821-00	Bourdeau Brothers of Middlebury	21-0-0	21.40	.00	.00		Pass
08051821-02	Bourdeau Brothers of Middlebury	0-0-60	.00	.00	64.20		Pass
12-140621-03	Lawes Agricultural Service Inc	10-10-10	9.28	10.20	9.39		Within Tolerance
12-040621-02	Lawes Agricultural Service Inc	5-10-10	5.18	10.60	9.15		Within Tolerance
12-040621-01	Lawes Agricultural Service Inc	10-10-10	9.84	10.00	9.76		Within Tolerance

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
12-040621-00	Lawes Agricultural Service Inc	5-10-10	4.96	9.84	11.30		Within Tolerance
12-033121-00	North Country Organics	5-3-4	5.09	3.43	3.98		Within Tolerance
12-033121-01	North Country Organics	5-3-4	4.80	3.84	3.99		Within Tolerance
12-033121-02	North Country Organics	5-3-4	4.72	3.44	3.88		Within Tolerance
12-033121-06	North Country Organics	4-6-4	4.69	6.68	3.99		Within Tolerance
12-033121-10	North Country Organics	8-1-9	7.68	1.46	8.85		Within Tolerance
12-033121-11	North Country Organics	10-0-0	9.71	.00	.00		Within Tolerance
12-040821-06	Green Mountain Fertilizer Div. Ld. Oliver	5-10-10	6.89	13.20	9.92		Within Tolerance
1-0426-001	Bourdeau Brothers - Sheldon	46-0-0	45.30	.00	.00		Within Tolerance
1-0426-002	Yara Canada Inc	46-0-0	45.40	.00	.00		Within Tolerance
1-0426-004	Yara Canada Inc	46-0-0	45.40	.00	.00		Within Tolerance
1-0426-003	Bourdeau Brothers - Sheldon	31.80-0-12	31.00	.00	12.00	Pass	Within Tolerance
452104	Northeast Agricultural Sales Inc	26-0-26	26.60	.00	25.90		Within Tolerance



Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
452108	Northeast Agricultural Sales Inc	4-3-2	4.46	3.55	1.94		Within Tolerance
452110	Northeast Agricultural Sales Inc	23-7-23	23.00	7.14	22.40		Within Tolerance
452111	Northeast Agricultural Sales Inc	0-0-41.50	.00	.00	40.50	Within Tolerance	Within Tolerance
452112	Northeast Agricultural Sales Inc	15-18-5	15.90	18.00	4.76		Within Tolerance
452113	Northeast Agricultural Sales Inc	24-6	25.70	5.19	18.20		Within Tolerance
452114	Northeast Agricultural Sales Inc	18	32.10	9.26	9.57		Within Tolerance
452115	Northeast Agricultural Sales Inc	25-5-15	26.80	4.70	15.60		Within Tolerance
452116	Northeast Agricultural Sales Inc	30-0-20	32.60	.00	19.50		Within Tolerance
452118	Darling Ingredients Inc	10-2-8	10.60	2.91	7.26		Within Tolerance
452119	Darling Ingredients Inc	10-2-8	11.20	2.46	7.28		Within Tolerance
452120	Darling Ingredients Inc	10-2-8	10.80	2.93	7.36	Pass	Within Tolerance
452121	Northeast Agricultural Sales Inc	19-6-18	18.30	6.05	17.70		Within Tolerance
452122	Northeast Agricultural Sales Inc	19-6-18	18.80	6.14	17.40		Within Tolerance

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
452124	Northeast Agricultural Sales Inc	10-0-42	9.36	.00	46.40		Within Tolerance
452125	Northeast Agricultural Sales Inc	6.60-8.10-40.50	6.52	7.29	42.05		Within Tolerance
452128	Northeast Agricultural Sales Inc	10-20-20	11.00	20.10	18.90		Within Tolerance
452131	Northeast Agricultural Sales Inc	10-20-20	9.77	20.50	20.80		Within Tolerance
452132	Northeast Agricultural Sales Inc	0-0-60	.00	.00	59.00		Within Tolerance
452135	Northeast Agricultural Sales Inc	17.30-10-16.20	18.50	9.98	16.10	Within Tolerance	Within Tolerance
452139	Northeast Agricultural Sales Inc	23-6-12	23.00	6.54	11.50		Within Tolerance
452140	Northeast Agricultural Sales Inc	23-5-23	24.40	4.64	22.65	Pass	Within Tolerance
452141	Northeast Agricultural Sales Inc	14-15-30	13.70	16.00	30.60		Within Tolerance
452143	Northeast Agricultural Sales Inc	10-8-12	10.40	7.96	11.60		Within Tolerance
452146	Northeast Agricultural Sales Inc	24-6-18	24.80	6.93	16.90		Within Tolerance
452151	Northeast Agricultural Sales Inc	14-14-14	13.30	13.85	13.35		Within Tolerance
1-0519-007	G Boucher Fertilizer	0-0-51	.00	.00	53.60	Within Tolerance	Within Tolerance
1-0519-011	G Boucher Fertilizer	0-0-22	.00	.00	20.80	Within Tolerance	Within Tolerance

Sample ID	Business Name	NPK Guarantee	Lab Result N	Lab Result P	Lab Result K	Micronutrients	Sample Status
1-0519-012	G Boucher Fertilizer	10-17-20	10.60	16.70	20.30	Pass	Within Tolerance
1-0519-013	Green Mountain Fertilizer Div. Ld. Oliver	10-20-20	9.45	20.20	18.90		Within Tolerance
08051821-01	Bourdeau Brothers of Middlebury	18-46-0	17.40	48.00	.00		Within Tolerance
08051821-03	Bourdeau Brothers of Middlebury	46-0-0	45.80	.00	.00		Within Tolerance
452144	Northeast Agricultural Sales Inc	24-12-18	24.30	13.30	16.90		Within Tolerance
12-061521-01	Carovail	3-0-29	4.05	.00	29.40	Within Tolerance	Within Tolerance
12-061521-02	Carovail	3-0-29	3.91	.00	29.90	Within Tolerance	Within Tolerance
12-061521-03	Carovail	3-0-29	3.85	.00	28.40	Within Tolerance	Within Tolerance

## Tonnage Data 2020

All tonnage values are as reported. 2020 was the first year that tonnage could be reported by external fertilizer registrants. 2021 tonnage will be reported in the 2021-2022 Annual Report.

Total fertilizer tonnage reported summary  
January 1, 2020-December 31, 2020

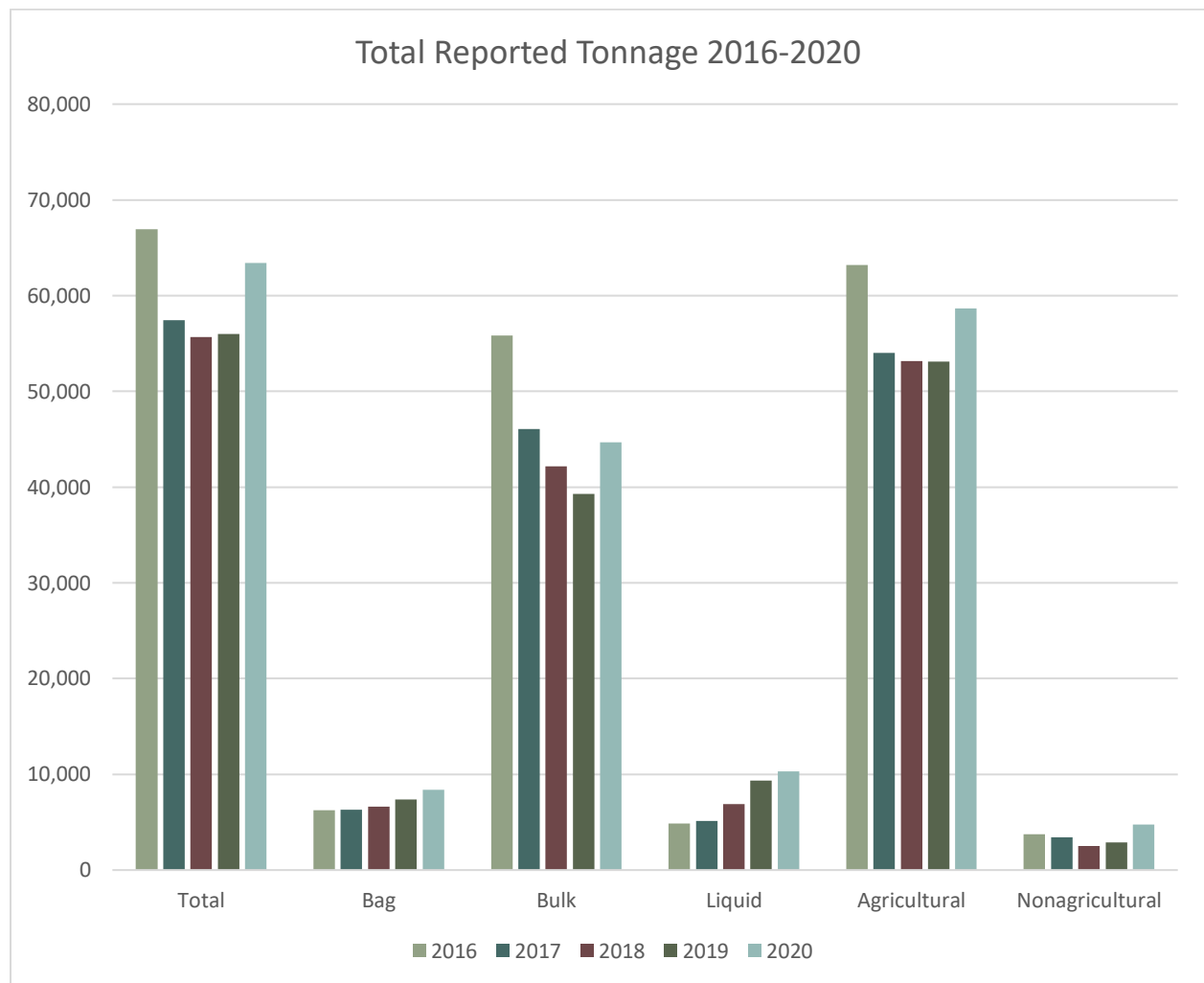
	Total (tons)	Container (tons)			Use (tons)	
		Bag	Bulk	Liquid	Agricultural	Nonagricultural
Multi-nutrient	9,711	915	7,836	960	9,378	333
Nitrogen	11,825	57	9,342	2,426	11,820	5
Phosphate	3	2	1	0	2	0
Potash	2,941	38	2,900	3	2,936	5
Sec/Micro	568	254	303	11	486	80
Misc.*	38,368	7,140	24,138	6910	34,051	4,318
Total	63,416	8,405	44,701	10,310	58,674	4,742
*Misc. = lime, calcite, compost, filler, etc.						

Note: Nitrogen means fertilizer containing nitrogen only i.e., 32-0-0 or 46-0-0.

Phosphate means fertilizer containing phosphate only i.e., 0-22-0 or 0-46-0.

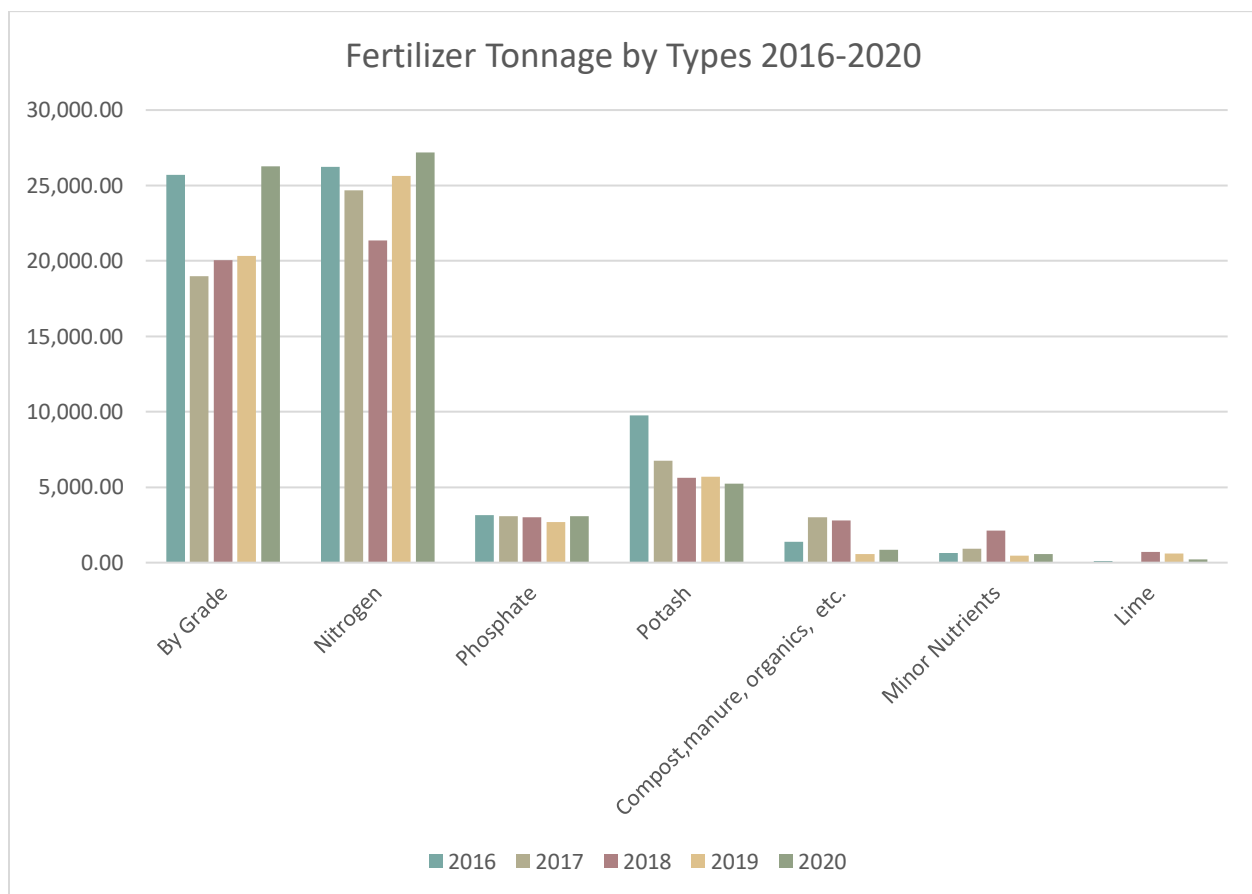
Potash means fertilizer containing Potash only i.e., 0-0-60 or 0-0-22.

Multi-nutrient means fertilizer containing a combination of nitrogen, phosphorous and/or potash.

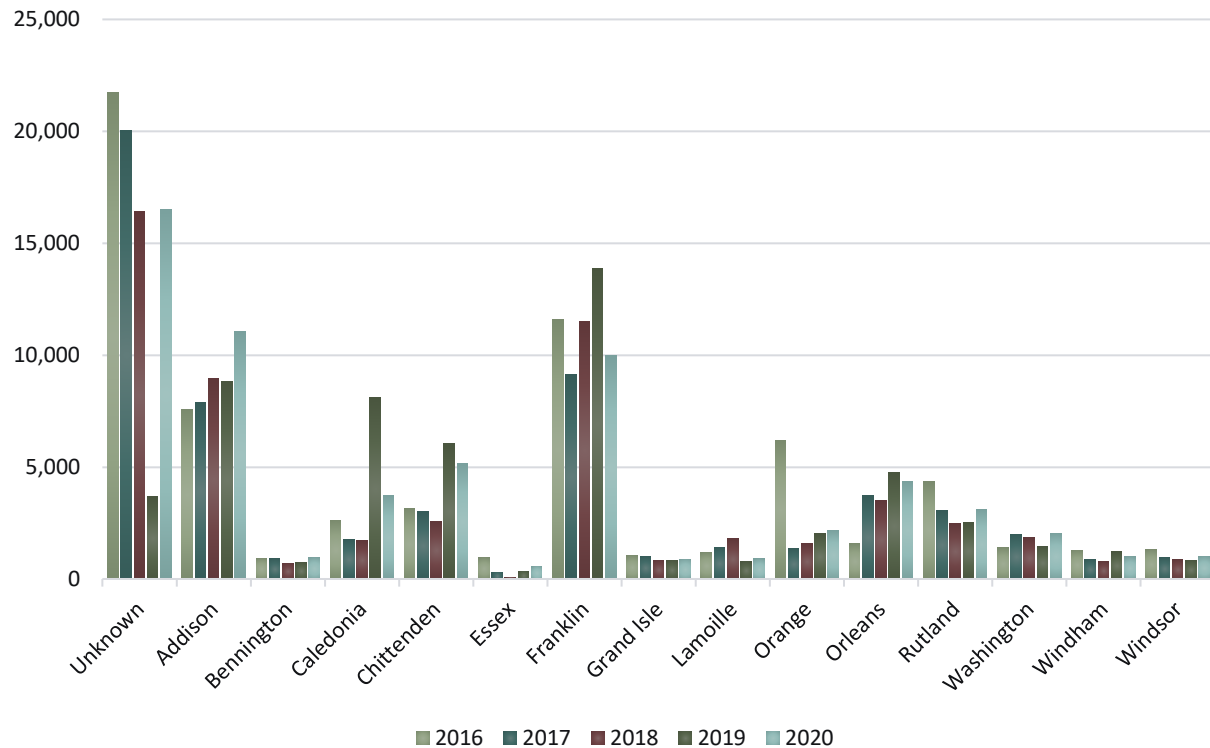


This chart shows total tonnage as reported for the past five years.

This chart shows tonnage reported by types. Note that it has not been a requirement to report tonnage for non-fertilizer products such as soil amendments and lime. Nitrogen means products that contained only nitrogen, Phosphate means products that contained only phosphate and Potash means products that contained only Potash. By grade means products that included combinations of nitrogen, phosphate, and potash.



## County Total Tonnage by Year 2016-2020



County	2016	2017	2018	2019	2020
Unknown	21,734	20,052	16,415	3,664	16,526
Addison	7,553	7,882	8,949	8,845	11,045
Bennington	933	896	706	736	958
Caledonia	2,613	1,763	1,713	8,092	3,736
Chittenden	3,150	3,000	2,588	6,069	5,139
Essex	958	296	47	325	564
Franklin	11,571	9,153	11,503	13,876	9,976
Grand Isle	1,062	1,008	847	820	891
Lamoille	1,203	1,415	1,787	776	895
Orange	6,197	1,364	1,586	2,017	2,173
Orleans	1,591	3,728	3,518	4,753	4,366
Rutland	4,363	3,072	2,494	2,515	3,114
Washington	1,400	2,009	1,869	1,469	2,036
Windham	1,288	868	764	1,213	988
Windsor	1,326	943	859	828	1,007
	66,941	57,449	55,644	55,997	63,416

Unknown means the reporter did not include the county where the fertilizer was distributed.

## Tonnage Broken Down by Nutrient

Tons of N-P-K by County 2020

COUNTY	Tons N	Tons P	Tons K
**Unknown	4,921	991	1,504
Addison	2,864	606	914
Bennington	118	39	89
Caledonia	850	239	363
Chittenden	633	105	715
Essex	121	27	90
Franklin	2826	348	872
Grand Isle	219	49	83
Lamoille	186	33	89
Orange	386	89	220
Orleans	1,290	61	323
Rutland	484	199	324
Washington	384	30	163
Windham	149	22	141
Windsor	159	57	105
Total	15,590	2,895	5,995

This chart shows the tonnage broken out by nutrient for each county. For example, the amount of nitrogen listed for each county is the actual amount of nitrogen applied devoid of fillers and other nutrients. If a farmer bought a 100 lb. bag of 5-10-10 in Montpelier, 5 pounds of nitrogen, 10 pounds of phosphorous and 10 pounds of potash would be counted towards the numbers for Washington county. Therefore 2,036 tons of fertilizer was reported distributed in Washington County in 2020, of that 384 tons was nitrogen, 30 tons was phosphorus, and 163 tons was potash. The balance of the tonnage would have been micronutrients, fillers, compost, etc. Unknown means the reporter did not include the county where the fertilizer was distributed.



## 2020 Product Registration

	2020	Percentage
<b>Feed</b>	14,915	48
<b>Fertilizer</b>	4,076	13
<b>Lime</b>	129	<1
<b>Pesticides</b>	11,971	39
<b>Total</b>	31,091	100.00



Note: Data reported as of 01/10/2022. Feed registration year ends on January 31, 2022.